

REMARKS

35 U.S.C. 102

The examiner rejected claims 1 and 8-11 under 35 U.S.C. 102(b), as allegedly anticipated by U.S. Patent No. 4,338,907 ("Lindbeck"). The examiner states:

As seen in figure 1, Lindbeck teaches a fuel cartridge 10 comprising a housing 12, a fuel egress port 24 supported by the housing, and a resistive heating element 28 disposed in the fuel egress port, wherein the resistive heating element is a wire that is disposed in thermal communication with the interior of the cartridge and it spaces a vapor portion of the cartridge (column 3, line 26 - column 4, line 9).

Applicant disagrees. First, Lindbeck does not describe or render obvious a housing for a liquid oxidizable fuel. The element 12 from Lindbeck that the examiner relies upon as allegedly describing the foregoing feature is an enclosure for a portion (referred to in Lindbeck as a hot cap 68) of a gasoline fume generator and not a housing for liquid oxidizable fuel. In this regard, Lindbeck reads¹:

As shown in the drawing, gasoline fume generator, and mixer 10 is housed in a generally cylindrical tank or vessel 12 having a vertically upstanding side wall 12 and a bottom 16 with the tank 12 being open at its upper end portion and terminating in a upper edge 18.

To further clarify the above point and without conceding to the examiner's position, Applicant amended claim 1 to recite, *inter alia*, "a housing, defining an interior space, with the interior space confining a liquid, oxidizable fuel." Lindbeck, which does not describe a fuel storage unit, fails to describe or render obvious at least the foregoing feature of amended claim 1.

Further, Lindbeck also fails to describe or render obvious "a fuel egress port," as recited in claim 1. An egress port, as used in claim 1, refers to a port that provides a pathway for egress or exit of fuel from the housing. The examiner seems to construe the fuel riser pipe 24 of Lindbeck to be a fuel egress port. Applicant disagrees. In stark contrast to the examiner's contentions, Lindbeck clearly describes the fuel riser pipe as a part of an inlet that allows the fuel

¹ Lindbeck, Col. 3, lines 29-33.

to flow *into* a portion of Lindbeck's system that the examiner construes as a housing. In this regard, Lindbeck states²:

Liquid fuel inlet line 20 is joined to a generally vertical liquid fuel riser pipe 24 which has a 3/4" diameter and is secured at a first end 26 to the bottom 16 of tank 12 and extends generally vertically upwardly within tank 12 at the center of the tank.

To further clarify the above point and without conceding to the examiner's position, Applicant has amended claim 1 to recite "a fuel egress port ..., providing egress of fuel from the interior space of the housing." Because Lindbeck does not describe or render obvious "a housing, defining an interior space ... confining a ... fuel," Lindbeck cannot logically describe "a fuel egress port ..., providing egress of fuel from the interior space of the housing," as recited in amended claim 1.

Claim 1 is patentable over Lindbeck for at least the above reasons. Claims 8-11 are dependent claims and are patentable for at least the reasons for which claim 1 is patentable.

35 U.S.C. 103

The examiner rejected claim 8 under 35 U.S.C. 103(a), as allegedly being unpatentable over Lindbeck and further in view of U.S. Published Application 2005/0031522 ("Delaney").

The examiner states:

Assuming *arguendo* that patentable weight is given to the intended use and the material worked upon in claim 8, Lindbeck teaches that the liquid fuel in the fuel cartridge is vaporized and the liquid fuel can be a hydrocarbon such as gasoline (see citations above).

Delaney teaches that hydrocarbon direct fuel cells use methanol, ethanol, diesel and/or gasoline as fuel.

Claim 8 properly depends from claim 1 and is therefore patentable for at least the reasons for which claim 1 is patentable. Delaney, which is directed to a method for simultaneously producing oxygen and absorbing carbon dioxide, fails to suggest, much less describe, the features missing in Lindbeck and therefore fails to detract from the patentability of claim 8.

² Lindbeck, Col. 3, lines 48-52.

The examiner rejected claims 12, 14, 16 and 17 under 35 USC 103(a) as being allegedly unpatentable over U.S. patent 6,506,513 ("Yonetsu") in view of GB 2,263,501 ("Tsoi-Hei").

The examiner also rejected claim 15 under 35 USC 103(a) as being allegedly unpatentable over Yonetsu in view of Tsoi-Hei and further in view of Gore.

With respect to claim 12, the examiner states:

As seen in the figures, Yonetsu teaches a fuel cartridge, that is prismatic in shape, having a housing 1, a fuel egress port 3 that contains a heat producing element "a" (i.e. porous carbon vaporizing plate, Figure 2, column 13, lines 16-20),

Furthermore in column 4, line 50 Yonetsu clearly discloses that the pathway 3 is filled with a porous material through which the liquid fuel permeates (also called a fine tube that performs capillary function as admitted to by Applicants in the Remarks field 11/4/09) and the porous material is in fluid communication and fluidly connected to the liquid fuel holding material called a receiver 5, where the fuel is vaporized before entering the unit cell. Therefore the entire path that the fuel flows through before it is vaporized at the vaporization plate "a" is considered the "egress port" and since the receiver 5 is completely disposed on the vaporization plate "a" the vaporization plate "a" is disposed in the path of the fuel being supplied and is therefore "disposed in the fuel egress port" as recited in instant claim 1.

...

Yonetsu does not teach that the porous carbon vaporization plate is a resistive heating element. Tsoi-Hei teaches a porous carbon heating element 22 (i.e. resistive heating element) that is connected to two electrodes 18a and 18b, which supply the porous carbon heating element electrical current that causes the porous carbon heating element to produce heat and to vaporize liquid fuel that is supplied to the porous carbon heating element (page 4, line 26 - page 5, line 6 and page 6, lines 6-30). (Emphasis Added)

Applicant disagrees. As emphasized in the above quoted portion from the office action, the examiner construes "the entire path that the fuel flows through" in Yonetsu as an egress port. The examiner also admits that fuel flows through this entire path "before it is vaporized at the vaporization plate." However, in stark contrast, the claim language requires "a fuel egress port... configured to pass fuel in vapor phase." Even if the examiner's construction of the term "egress port" is adopted, *arguendo*, the alleged "egress port" of Yonetsu carries fuel in the liquid phase and therefore Yonetsu fails to describe or suggest the foregoing feature of claim 12. Claim 12 is therefore patentable over Yonetsu at least for the above reasons. Tsoi-Hei also does not describe or suggest the foregoing feature and therefore fails to detract from the patentability of claim 12.

In addition, the examiner admits that Yonetsu fails to teach the resistive heating element and relies on Tsoi-Hei for that teaching. However, Yonetsu would teach away from a heating element at least because Yonetsu does not appear to move fuel from the tank in a vapor phase. Rather, the vapor phase is achieved in Yonetsu in the unit cell of the stacked body (of the fuel cell) and not in the cartridge. To modify the reference to incorporate features of vaporization in the cartridge is ex post reasoning based on knowledge gleaned from Applicant.

Claims 14, 15, 16, and 17 properly depend from claim 12 and are therefore patentable for at least the reasons for which claim 12 is patentable. Gore does not describe or suggest "a fuel egress port... configured to pass fuel in vapor phase," and therefore fails to detract from the patentability of claim 15.

Double Patenting

The Examiner continues to reject claims 1, 8, 12 and 17 on the ground of non-statutory obviousness type double patenting as allegedly being unpatentable over claims 11 and 12 of co-pending application number 10/664,818. In this regard the examiner states:

Regarding the Obviousness type Double Patenting rejection, applicants' arguments are not persuasive for reasons already made of record and the fact that open claim language has been used in both the instant application and copending application No.10/664,818.

Applicant disagrees and maintains that the obviousness type double patenting rejection is improper for the reasons already made of record. In particular, Applicant maintains that the claims 11 and 12 of the co-pending application number 10/664,818 do not prevent the practice of claims 1, 8, 12 and 17 of the present application or vice-versa at least because the claims of the '818 application are neither broader nor narrower than the claims of the instant case, but instead are directed to patentably distinct subject matter. Merely because "open claim language" has been used in both the instant application and co-pending application does not render the claims in question of the instant application broader or narrower than claims 11 and 12 of the '818 application. As such, applicant contends that the double patenting rejection is improper and should be withdrawn.

Applicant : Javit A. Drake et al.
Serial No. : 10/664,405
Filed : September 16, 2003
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Attorney's Docket No.: 08935-0299001 / Z-03461

Applicant is concurrently filing a petition for a one-month extension of time. The petition fee in the amount of \$130 is being paid concurrently via the Electronic Filing System (EFS) by way of Deposit Account authorization. Please apply any other charges or credits to deposit account 06-1050 referencing attorney docket number 08935-0299001.

Respectfully submitted,

Date: December 13, 2010

/Denis G. Maloney/
Denis G. Maloney
Reg. No. 29,670

Customer Number 26161
Fish & Richardson P.C.
Telephone: (617) 542-5070
Facsimile: (877) 769-7945

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